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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,395	01/09/2006	Lothar Goehlich	08997.0005	8215

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EXAMINER	
MAYO III, WILLIAM H	

ART UNIT	PAPER NUMBER
2831	

MAIL DATE	DELIVERY MODE
06/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,395	GOEHLICH, LOTHAR	
	Examiner	Art Unit	
	William H. Mayo III	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. However, based on a new search, a new rejection follows below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 30-33, 36-37, 39-44, 46, 49, 54-55, and 58-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans (Pat Num GB 2 336 252). Evans discloses a method of building a termination of an electrical cable (Fig 1). Specifically, with respect to claim 30, Evans discloses a method of terminating an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (air not numbered) for accommodating the volume expansions of said insulating material (3) within said cavity, the method

comprising the steps of: creating said cavity by introducing said interior member (inside surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Page 3, lines 30-36); sealing said termination (inserted top 9 and bottom 10); and placing a volume change compensation member (12, air) into said cavity, wherein the volume change compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 23-25). With respect to claim 31, Evans discloses the method of placing the volume change compensation member (12) into the cavity is performed before the step of filling in the insulating material (3, i.e. air exist there before the filling material is inserted). With respect to claim 32, Evans discloses the method of filling said insulating material (3) into said cavity comprises the steps of filling an insulating filler (granules of polyethylene) and an insulating compound (silicone oil). With respect to claim 33, Evans discloses the method of placing said volume change compensation member (12) is carried out after the step of filling said insulating filler (i.e. air exist in the opening at 12 after the filling material is inserted). With respect to claim 36, Evans discloses a method of terminating an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be

terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (12) for accommodating the volume expansions of said insulating material (3) within said cavity, the method comprising the steps of: creating said cavity by introducing said interior member (inside surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Col 9, lines 10-38); sealing said termination (Page 3, lines 30-36) and placing a volume change compensation member (12, air) into said cavity, wherein the volume change compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 23-25), wherein the volume change compensation member (air) is a hollow body (1). With respect to claim 37, Evans discloses a method of terminating an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (12) for accommodating the volume expansions of said insulating material (3) within said cavity, the method comprising the

steps of: creating said cavity by introducing said interior member (inside surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Page 3, lines 30-36); sealing said termination (Col 8, lines 45-58); and placing a volume change compensation member (12, air) into said cavity, wherein the volume change compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 23-25), wherein the volume change compensation member (air) is a compressible body (1). With respect to claim 39, Evans discloses that method comprising the step of selecting the predetermined volume of the volume change compensation member (12) depending on the temperature of the insulating material (3, Page 3, lines 1-5). With respect to claim 40, Evans discloses the method of selecting the predetermined volume of the volume change compensation member (12) depending on the ambient temperature range of the area where said termination has to be installed (Page 3, lines 1-5). With respect to claim 41, Evans discloses the method comprising the step of removing the volume change compensation member (12) after the step of filling said insulating material (3) into said cavity (i.e. after the termination is placed in the field and the termination heats up the insulation material will expand into the open space thereby removing the air from the termination). With respect to claim 42, Evans

discloses a termination of an electrical cable (1) comprising: an outer insulator body member (2); a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (air not numbered) for accommodating the volume expansions of said insulating material (3) within said cavity, comprising a volume change compensation member (12) having a predetermined volume to ensure the accommodation of said volume expansions, wherein the volume change compensation member (12) is located in a cavity in an area of non critical electrical field (Page 3, lines 1-5). With respect to claim 43, Evans discloses that the volume change compensation member (12) compensates the volume expansions of the insulating material (3) by changing its own volume after the termination is placed in the field and the termination heats up the insulation material will expand into the open space thereby removing the air from the termination). With respect to claim 44, Evans discloses that an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (air not numbered) for accommodating the volume expansions of said insulating material (3) within said cavity, the method comprising the steps of: creating said cavity by introducing said interior member (inside

surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Page 3, lines 31-36); sealing said termination; and placing a volume change compensation member (12, air) into said cavity, wherein the volume change compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 31-35), wherein the volume change compensation member (air) is a compressible body (1), wherein the volume change compensation member (12, air) is compressible. With respect to claim 46, Evans discloses an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (air not numbered) for accommodating the volume expansions of said insulating material (3) within said cavity, the method comprising the steps of: creating said cavity by introducing said interior member (inside surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Page 3, lines 31-36); sealing said termination; and placing a volume change compensation member (12, air) into said cavity, wherein the volume change

compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 23-25), wherein the volume change compensation member (air) is a compressible body (1), wherein the volume change compensation member (12) is a hollow void (i.e. hollow body member). With respect to claim 49, Evans discloses that the volume change compensation member (12) is placed in the upper part of the termination (Fig 2). With respect to claim 54, Evans discloses that the hollow body (1) has an outer skin (rim of 2) and a compressible interior space (Fig 2). With respect to claim 55, Evans discloses that the compressible interior space (at 1) is filled with gas (i.e. air, Fig 2). With respect to claim 58, Evans discloses that the termination (Fig 2) further comprises means (4) for controlling stress concentrations (via stress cone 11). With respect to claim 59, Evans discloses that method comprising the step of selecting the predetermined volume of the volume change compensation member (12) depending on the temperature of the insulating material (3, Page 3, lines 31-36). With respect to claim 40, Evans discloses the method of selecting the predetermined volume of the volume change compensation member (12) depending on the ambient temperature range of the area where said termination has to be installed (Page 3, lines 1-5). With respect to claim 41, Evans discloses the method comprising the step of removing the volume change

compensation member (12) after the step of filling said insulating material (3) into said cavity (i.e. after the termination is placed in the field and the termination heats up the insulation material will expand into the open space thereby removing the air from the termination).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 34-35, 38, 45, 47-48, 50-53, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (Pat Num GB 2 336 252) in view of Abisso et al (Pat Num 6,235,992, herein referred to as Abisso). Evans discloses a method of building a termination of an electrical cable (Fig 1). Specifically, with respect to claims 34-35, 38, 47-48, 50-53, and 56, Evans discloses an electrical cable (1) comprising a termination (Fig 1) comprises an outer insulator body (5), a substantially longitudinally extended

interior member (inside surface of 5) comprising said electrical cable (1) to be terminated, said cable (1) comprising a conductor (2) for carrying load; an insulating material (3) filled in a cavity between said outer insulator body (5) and said interior member (inside surface of 5); and means (air not numbered) for accommodating the volume expansions of said insulating material (3) within said cavity, the method comprising the steps of: creating said cavity by introducing said interior member (inside surface of 5) into said outer insulator body (5); filling said insulating material (3) into said cavity (Page 3, lines 31-36); sealing said termination; and placing a volume change compensation member (12, air) into said cavity, wherein the volume change compensation member (12) is capable of maintaining a compensating volume in a cavity in an area of non critical electrical field as the insulating material is introduced into the cavity (all of the claimed structure is taught and therefore the prior art reference has to perform the same functions as the claimed invention), wherein said volume change compensation member (12, air) having a predetermined volume to accommodate volume expansions of said insulating material (3) within said cavity (Page 3, lines 23-25).

However, Evans doesn't specifically disclose the volume change compensation member being a solid body (claims 34 & 48), nor the volume change compensation member is a foam body (claims 35 & 45), nor the said volume change compensation member is an inflatable body (claims 38 & 47), nor the foam body being electrically insulating or semi-conducting (claim 50), nor the foam body being closed cell material (claim 51), nor the foam body containing encapsulating chemicals (claim 52), nor the

foam body containing water absorbing materials (claim 53), nor the foam body being inflated with gas (claim 56).

Abisso teaches an electrical device (Figs 1-3) for medium and high voltage transmission having improved chemical and physical characteristics such as dielectric strength and compressibility (Col 1, lines 10-15). Specifically, with respect to claims 34 & 48, Abisso discloses an insulator (100) for usage with a cable termination (Col 1, lines 15-27), wherein the insulator (100) comprises an interior compressible filler (4, i.e. volume compensation member), wherein the volume change compensation member (4) may be a solid body (i.e. silicone, Col 4, lines 1-35, after curing from a liquid state, Col 4, lines 1-35). With respect to claim 35 & 45, Abisso teaches that the volume change compensation member (4, i.e. silicone) may be a foam body (Col 1, lines 45-50). With respect to claims 38 & 47, Abisso teaches that the volume change compensation member (4) may be an inflatable body, containing microspheres (Col 2, lines 58-67). With respect to claim 50, Abisso teaches that the foam body (i.e. silicone) is electrically insulating (Col 4, lines 1-15). With respect to claim 51, Abisso teaches that the foam body (i.e. silicone) is a closed cell material (i.e. solid foam, Col 1, lines 48-50). With respect to claim 52, Abisso teaches that the foam body (4) may contain encapsulating chemicals (i.e. organosilicon crosslinker, Col 3, lies 15-16). With respect to claim 53, Abisso teaches that the foam body (4) may contain water absorbing materials (i.e. mircrospheres, Col 2, lines 62-67). With respect to claim 56, Abisso teaches that the foam body (4) may be semisolid, thereby resulting in air being placed in the foam (i.e. inflated with gas, Col 1, lines 48-50).

With respect to claims 34-35, 38, 45, 47-48, 50-53, and 56, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the termination of Evans to comprise the volume compensation member as taught by Abisso because Abisso teaches that such a configuration provides an electrical device (Figs 1-3) commonly utilized with medium and high voltage transmission having improved chemical and physical characteristics such as dielectric strength and compressibility (Col 1, lines 10-15) and improves compressibility in order to be applicable within a wide functioning temperature range without requiring compensating volumes (Col 2, lines 25-30).

Response to Arguments

7. Applicant's arguments with respect to claims 30-59 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. This action is non-final.

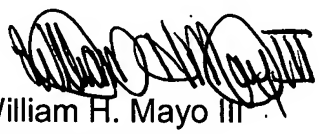
Communication

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-

272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
May 21, 2007